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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,309	12/29/2000	Benjamin N. Eldridge	P60D1-US	7839

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EXAMINER

GRAYBILL, DAVID E

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/753,309	ELDRIDGE ET AL.	
Examiner	Art Unit	
David E Graybill	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 7. 6) ☐ Other: _____

Art Unit: 2827

Applicant's election without traverse of Group I, claims 1-34, in Paper No. 10 is acknowledged.

In the rejections infra, reference labels are generally recited only for the first recitation of identical claim language.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-9, 13, 15-27 and 29-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Puar (5506499).

At column 5, lines 24-50, column 6, lines 33-35 and 43-46, column 7, lines 12-35, column 8, lines 20-36 and 55-63, column 9, lines 15-16, column 9, line 32 to column 10, line 8, column 10, lines 43-46, and column 11, lines 57-60 and 65-67, Puar teaches the following:

1. An integrated circuit comprising: circuitry; a bond pad 58 coupled to the circuitry and for interfacing the circuitry with an external circuit; and a special contact pad 60 coupled to the circuitry, the special contact pad for use only when testing the circuitry.

Art Unit: 2827

2. The integrated circuit of 1, wherein the special contact pad is smaller than the bond pad.
4. The integrated circuit of 1, wherein the special contact pad is structured to receive a spring contact element.
5. The integrated circuit of 1, wherein the special contact pad is for communicating test data to the circuitry.
6. The integrated circuit of 1, wherein the special contact pad is for communicating data, from the circuitry.
7. The integrated circuit of 1, wherein the special contact pad is for contacting a circuit node internal to the circuitry.
8. An integrated circuit comprising: a plurality of circuits; a plurality of bond pads each coupled to at least one of the plurality of circuits, the plurality of bond pads for interfacing the plurality of circuits with circuits external to the integrated circuit; and a plurality of special contact pads each coupled to at least one of the plurality of circuits and providing an electrical contact for communicating with the plurality of circuits.
9. The integrated circuit of 8, wherein the bond pads are arranged in a first predetermined alignment and the special contact pads are arranged in a second predetermined alignment.
13. The integrated circuit of 8, wherein the special contact pads are smaller than the bond pads.

Art Unit: 2827

15. The integrated circuit of 8, wherein at least one of the special contact pad is electrically disposed between two of the plurality of circuits to monitor signals transmitted between circuits.

16. The integrated circuit of 8, wherein one of the special contact pads communicates test data to one of the circuits, and another one of the special contact pads communicates an output of the circuit.

17. The integrated circuit of 8, wherein one of the special contact pads communicates test data to the one of the circuits, and one of the bond pads communicates an output of the circuit.

18. The integrated circuit of 8, wherein one of the bond pads communicates test data to one of the circuits, and one of the special contact pads communicates an output of the circuit.

19. The integrated circuit of 8, wherein in a first mode of operation one of the special contact pads communicates data to one of the circuits, and in a second mode of operation the special contact pads communicates data from the circuit.

20. The integrated circuit of 8, wherein one of the plurality of circuits is an embedded memory array, and the special contact pads communicates address, and test data to the embedded memory array.

Art Unit: 2827

21. The integrated circuit of 8, wherein one of the plurality of circuits includes programmable circuitry, and the special contact pads are for communicating signals for programming the programmable circuitry.

22. The integrated circuit of 8, wherein the bond pads are structured to be connected to external circuitry by bonding wires, and the special contact pads are not structured to be connected to external circuitry by bonding wires.

23. The integrated circuit of 8, wherein the bond pads are structured to be connected to external circuitry by solder bumps, and the special contact pads are not structured to be connected to external circuitry by solder bumps.

24. The integrated circuit of 8, wherein the bond pads are structured to be in electrical contact with a package for housing the integrated circuit, and the special contact pads are not structured to be in electrical contact with the package.

25. The integrated circuit of 8, wherein the plurality of circuits includes a first circuit and a second circuit having a redundant function of the first circuit, and wherein the special contact pads are disposed about the first and second circuits to communicate with the first and second circuits.

26. The integrated circuit of 25, further comprising means for communicating with the special contact pads and for disabling

Art Unit: 2827

the first circuit if it is defective and for enabling the second circuit.

27. The integrated circuit of 25, further comprising means for communicating with the special contact pads and for disabling the second circuit.

29. An integrated circuit comprising: a plurality of bond pads 56; an internal circuit 52 not directly monitorable by the bond pads; and at least one special contact pad 60 for directly accessing the internal circuit.

30. The integrated circuit of 29, wherein the internal circuit comprises an embedded memory array, and the at least one special contact pad communicates address and memory data with the embedded memory array.

31. The integrated circuit of 29, wherein the internal circuit comprises programmable circuitry, and the at least one special contact pad communicates programming signals to the programmable circuitry.

32. The integrated circuit of 29, wherein the bond pads are arranged in a first predetermined alignment and the at least one special contact pad is in a second predetermined alignment.

33. The integrated circuit of 29, wherein the at least one special contact pad is smaller than the bond pads.

Art Unit: 2827

To further clarify the teaching of wherein the special contact pad is structured to receive a spring contact element, this it is noted that this limitation is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of Puar. Further, because the product of Puar has the same structure as the claimed product, it is inherently capable of being used for the intended use, and the statement of intended use does not patentably distinguish the claimed product from the product of Puar. Similarly, the manner in which a product operates is not germane to the issue of patentability of the product; Ex parte Wikdahl 10 USPQ 2d 1546, 1548 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); In re Finsterwalder 168 USPQ 530 (CCPA 1971); In re Casey 152 USPQ 235, 238 (CCPA 1967). Also, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."; Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). And, "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."; In re Young, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 136 USPQ 458, 459 (CCPA 1963)). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function.

Art Unit: 2827

In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Art Unit: 2827

Claims 1, 3, 8, 10 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Bell (6373143).

At column 3, line 8 to column 4, line 67, Bell teaches the following:

1. An integrated circuit comprising: circuitry; a bond pad 37 coupled to the circuitry and for interfacing the circuitry with an external circuit; and a special contact pad 32 coupled to the circuitry, the special contact pad for use only when testing the circuitry.

3. The integrated circuit of 1, wherein the special contact pad has a maximum dimension of approximately 10 microns.

8. An integrated circuit comprising: a plurality of circuits; a plurality of bond pads each coupled to at least one of the plurality of circuits, the plurality of bond pads for interfacing the plurality of circuits with circuits external to the integrated circuit; and a plurality of special contact pads each coupled to at least one of the plurality of circuits and providing an electrical contact for communicating with the plurality of circuits.

10. The integrated circuit of 8, wherein the bond pads are disposed along the periphery of the integrated circuit, and at

Art Unit: 2827

least one of the special contact pads is not disposed on the periphery of the integrated circuit.

11. The integrated circuit of 8, wherein the bond pads are aligned in a grid pattern on the integrated circuit, and at least one of the special contact pads is not aligned in the grid pattern.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Puar or Bell as applied to claim 8, and further in combination with Waki (6080604).

Puar and Bell each teach the following:

12. The integrated circuit of 8, wherein at least one of the special contact pads is not aligned in the lead-on-center configuration.

However, neither Puar nor Bell appear to explicitly teach the following:

12. The integrated circuit of 8, wherein the bond pads are aligned in a lead-on-center configuration.

Nonetheless, at column 2, lines 22-29, Waki teaches an integrated circuit 1, wherein bond pads 2 are aligned in a lead-on-center configuration. Moreover, it would have been obvious to combine the product of Waki with the product of Puar or Bell because it would save areas on the surface for interconnections.

Art Unit: 2827

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Puar or Bell as applied to claim 8, and further in combination with Smith (5613861).

Neither Puar nor Bell appear to explicitly teach the following:

14. The integrated circuit of 8, further comprising a spring contact element attached to one of the special contact pads.

Regardless, at column 6, lines 24-29, and column 10, lines 9-12, Smith teaches a spring contact element 15 attached to a contact pad 3. Furthermore, it would have been obvious to combine the product of Smith with the product of Puar or Bell because it would facilitate contact to the contact pad.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Puar or Bell as applied to claim 8, and further in combination with Amerasekera (6078083).

As previously cited, Puar and Bell each teach that the special contact pads have no electric discharge protection circuitry.

However, neither Puar nor Bell appear to explicitly teach the following:

28. The integrated circuit of 8, further comprising electrostatic discharge protection circuitry for the bond pads.

Art Unit: 2827

Notwithstanding, at column 7, lines 56-61, Ma teaches an integrated circuit comprising electrostatic discharge protection circuitry for bond pads and not for special contact pads. In addition, it would have been obvious to combine the product of Ma with the product of Puar or Bell because it would provide electrostatic discharge protection for the bond pads.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Puar as applied to claim 29, and further in combination with Smith (5613861).

Puar does not appear to explicitly teach the following:
34. The integrated circuit of 29, further comprising a spring contact element attached to the at least one special contact pad.

Nevertheless, at column 6, lines 24-29, and column 10, lines 9-12, Smith teaches a spring contact element 15 attached to a contact pad 3. Furthermore, it would have been obvious to combine the product of Smith with the product of Puar because it would facilitate contact to the contact pad.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

Art Unit: 2827

Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is 703/3087724.



David E. Graybill
Primary Examiner
Art Unit 2827

D.G.
18-Oct-02